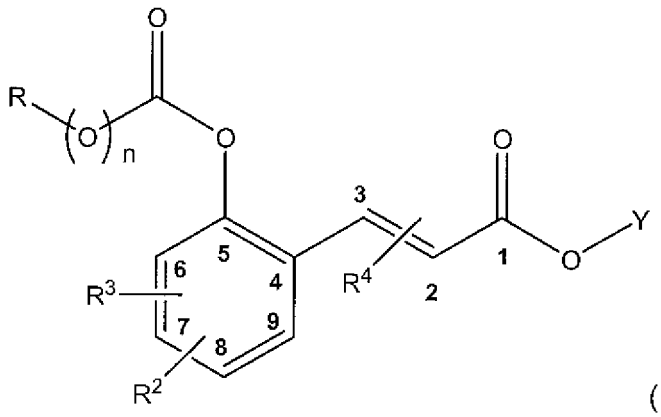
Claims

1. Use of a compound of formula (I) as precursor for olfactory compounds compound




(I)

wherein the acrylic acid ester double bound is of the E configuration;

n is zero or 1;

Y is $-CR^5R^6R^7$, wherein $R^5$, $R^6$ and $R^7$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue, and the sum of all carbon atoms ($R^5$+ $R^6$ +$R^7$) is not greater than 18; or

Y is $-CR^5R^6R^7$, wherein $R^5$, $R^6$ and $R^7$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue containing one or more atoms/groups selected from O, N and C(O), and the sum of all carbon atoms ($R^5$+ $R^6$ +$R^7$) is not greater than 18; or

Y is $-CR^8=CR^9R^{10}$, wherein $R^8$, $R^9$ and $R^{10}$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue, the geometry of the enol double bond is E or Z, and the sum of all carbon atoms ($R^8$ + $R^9$ + $R^{10}$) is not greater than 18; or

Y is $-CR^8=CR^9R^{10}$, wherein $R^8$, $R^9$ and $R^{10}$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue containing one or more atoms/groups selected from O, N and C(O), the geometry of the enol double bond is E or Z, and the sum of all carbon atoms ($R^8$ + $R^9$ + $R^{10}$) is not greater than 18;

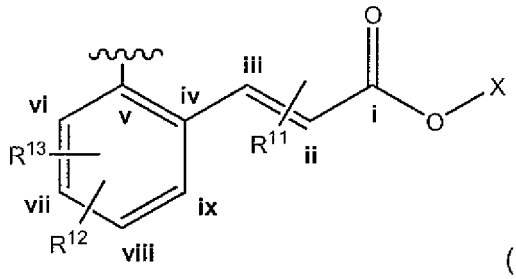
$R^2$ and $R^3$ are independently hydrogen, $C_1$-$C_6$ alkyl, $C_1$-$C_6$ alkoxy residue, -$NH_2$, -$NO_2$, -$NHCO_2CH_3$, -N($C_1$-$C_6$ alkyl)$_2$, -N(hydroxyalkyl)$_2$, -NHC(O)-($C_1$-$C_8$ alkyl) or -NHC(O)-($C_3$-$C_8$ aryl); or

$R^2$ and $R^3$ are attached at the positions C(6,7), C(7,8), or C(8,9), and form together with the carbon atoms to which they are attached a dioxolane ring or a dioxane ring;

$R^4$ in 2- or 3-position is hydrogen, $C_1$-$C_4$ alkyl, $C_2$-$C_4$ alkenyl, $C_3$-$C_6$ cycloalkyl, or –CN; and

a) if n is zero, R is a $C_1$-$C_{24}$ hydrocarbon residue, or $C_1$-$C_{24}$ hydrocarbon residue containing one or more heteroatoms selected from N, O and Si; or

b) if n is 1, R is a $C_1$- $C_{25}$ hydrocarbon residue, a $C_1$- $C_{25}$ hydrocarbon residue containing one or more atoms/groups selected from N, O, Si, and C(O), or $C_1$- $C_{25}$ hydrocarbon residue substituted by an ionic substituent of the formula $N(R^{20})_3^+$, in which $R^{20}$ is the residue of an alkyl group with 1 to 18 carbon atoms; or
R is a monovalent residue of the formula (i)




(i)

wherein
X is –$CR^{14}R^{15}R^{16}$, wherein $R^{14}$, $R^{15}$ and $R^{16}$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue, and the sum of all carbon atoms ($R^{14}$+ $R^{15}$ +$R^{16}$) is not greater than 18; or

X is –$CR^{14}R^{15}R^{16}$, wherein $R^{14}$, $R^{15}$ and $R^{16}$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue containing one or more atoms/groups selected

from O, N and C(O), and the sum of all carbon atoms ($R^{14}$+ $R^{15}$ +$R^{16}$) is not greater than 18; or

X is $-CR^{17}=CR^{18}R^{19}$, wherein $R^{17}$, $R^{18}$ and $R^{19}$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue, the geometry of the enol double bond is E or Z, and the sum of all carbon atoms ($R^{17}$ + $R^{18}$ + $R^{19}$) is not greater than 18; or

X is $-CR^{17}=CR^{18}R^{19}$, wherein $R^{17}$, $R^{18}$ and $R^{19}$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue containing one or more atoms/groups selected from O, N and C(O), the geometry of the enol double bond is E or Z, and the sum of all carbon atoms ($R^{17}$ + $R^{18}$ + $R^{19}$) is not greater than 18;

$R^{12}$ and $R^{13}$ are independently hydrogen, $C_1$-$C_6$ alkyl, $C_1$-$C_6$ alkoxy residue, $-NO_2$, $-NH_2$, $-NHCO_2CH_3$, $-N(C_1$-$C_6$ alkyl$)_2$, $-N($hydroxyalkyl$)_2$, $-NHC(O)-(C_1$-$C_8$ alkyl) or $-NHC(O)-(C_3$-$C_8$ aryl); or

$R^{12}$ and $R^{13}$ are attached at the positions C(vi,vii), C(vii,viii), or C(viii,ix), and form together with the carbon atoms to which they are attached a dioxolane ring or a dioxane ring;

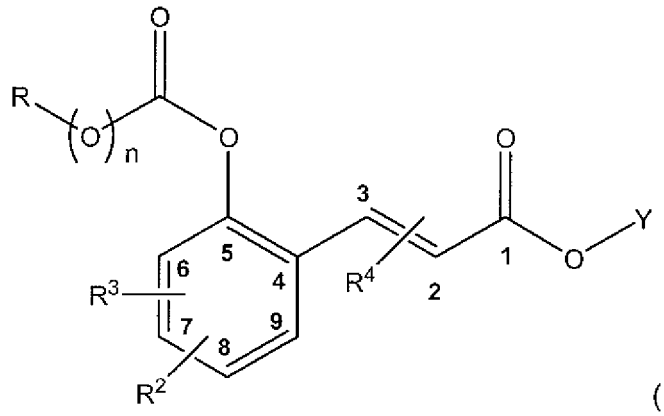
$R^{11}$ in ii- or iii-position is hydrogen, $C_1$-$C_4$ alkyl, $C_2$-$C_4$ alkenyl, $C_3$-$C_6$ cycloalkyl, or –CN.

2. A consumer product comprising a compound of formula (I) as defined by claim 1.

3. A process for preparing compositions which provide upon activation an olfactory compound comprising incorporating into the composition a compound of formula (I) as defined by claim 1.

4. A process of providing an olfactory compound to a substrate comprising the steps:
   a) cleaving a compound of formula (I) as defined by claim 1 by hydrolysis resulting in a compound of formula (Ia); followed by
   b) cleaving the compound of formula (Ia) of step a under activating conditions in the presence of light resulting in a coumarin (IIa).

5. A compound of formula (I)




(I)

wherein the acrylic acid ester double bound is of the E configuration;

n is zero or 1;

Y is $-CR^5R^6R^7$, wherein $R^5$, $R^6$ and $R^7$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue, and the sum of all carbon atoms ($R^5$+ $R^6$ +$R^7$) is not greater than 18 and at least 6; or

Y is $-CR^5R^6R^7$, wherein $R^5$, $R^6$ and $R^7$ are independently hydrogen or a $C_1$- $C_{18}$ aliphatic residue containing one or more atoms/groups selected from O, N and C(O), and the sum of all carbon atoms ($R^5$+ $R^6$ +$R^7$) is not greater than 18; or

Y is $-CR^8=CR^9R^{10}$, wherein $R^8$, $R^9$ and $R^{10}$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue, the geometry of the enol double bond is E or Z, and the sum of all carbon atoms ($R^8$ + $R^9$ + $R^{10}$) is not greater than 18; or

Y is $-CR^8=CR^9R^{10}$, wherein $R^8$, $R^9$ and $R^{10}$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue containing one or more atoms/groups selected from O, N and C(O), the geometry of the enol double bond is E or Z, and the sum of all carbon atoms ($R^8$ + $R^9$ + $R^{10}$) is not greater than 18;

$R^2$ and $R^3$ are independently hydrogen, $C_1$-$C_6$ alkyl, $C_1$-$C_6$ alkoxy residue, $-NH_2$, $-NO_2$, $-NHCO_2CH_3$, $-N(C_1$-$C_6$ alkyl$)_2$, $-N$(hydroxyalkyl$)_2$, $-NHC(O)-(C_1$-$C_8$ alkyl) or

-NHC(O)-($C_3$-$C_8$ aryl); or

$R^2$ and $R^3$ are attached at the positions C(6,7), C(7,8), or C(8,9), and form together with the carbon atoms to which they are attached a dioxolane ring or a dioxane ring;

$R^4$ in 2- or 3-position is hydrogen, $C_1$-$C_4$ alkyl, $C_2$-$C_4$ alkenyl, $C_3$-$C_6$ cycloalkyl, or –CN; and

a) if n is zero, R is a $C_2$-$C_{24}$ hydrocarbon residue, or $C_1$-$C_{24}$ hydrocarbon residue containing one or more heteroatoms selected from N, O and Si; or

b) if n is 1, R is a $C_1$- $C_{25}$ hydrocarbon residue, a $C_1$- $C_{25}$ hydrocarbon residue containing one or more atoms/groups selected from N, O, Si, and C(O), or $C_1$- $C_{25}$ hydrocarbon residue substituted by an ionic substituent of the formula $N(R^{20})_3^+$, in which $R^{20}$ is the residue of an alkyl group with 1 to 18 carbon atoms; or
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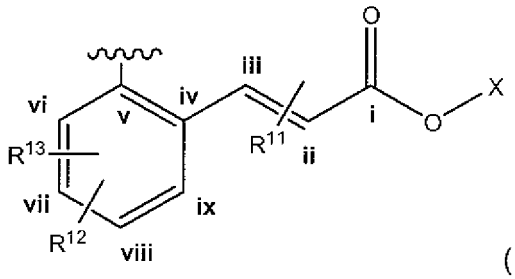


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X is $-CR^{14}R^{15}R^{16}$, wherein $R^{14}$, $R^{15}$ and $R^{16}$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue containing one or more atoms/groups selected from O, N and C(O), and the sum of all carbon atoms ($R^{14}$+ $R^{15}$ +$R^{16}$) is not greater than 18; or

X is $-CR^{17}=CR^{18}R^{19}$, wherein $R^{17}$, $R^{18}$ and $R^{19}$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue, the geometry of the enol double bond is E or Z, and the sum of all carbon atoms ($R^{17}$ + $R^{18}$ + $R^{19}$) is not greater than 18; or

X is $-CR^{17}=CR^{18}R^{19}$, wherein $R^{17}$, $R^{18}$ and $R^{19}$ are independently hydrogen or a $C_1$- $C_{18}$ hydrocarbon residue containing one or more atoms/groups selected from O, N and C(O), the geometry of the enol double bond is E or Z, and the sum of all carbon atoms ($R^{17}$ + $R^{18}$ + $R^{19}$) is not greater than 18;

$R^{12}$ and $R^{13}$ are independently hydrogen, $C_1$-$C_6$ alkyl, $C_1$-$C_6$ alkoxy residue, $-NO_2$, $-NH_2$, $-NHCO_2CH_3$, $-N(C_1$-$C_6$ alkyl$)_2$, -N(hydroxyalkyl)$_2$, -NHC(O)-($C_1$-$C_8$ alkyl) or -NHC(O)-($C_3$-$C_8$ aryl); or

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